

## Black Rye IPA #2

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- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **50**
- SRM **34.8**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.1 liter(s)**
- Total mash volume **26.8 liter(s)**

### Steps

- Temp **63 C**, Time **30 min**
- Temp **68 C**, Time **30 min**
- Temp **78 C**, Time **15 min**

### Mash step by step

- Heat up **20.1 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **68C**
- Keep mash **15 min** at **78C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (59.7%)	80 %	5
Grain	Żytni	2 kg (29.9%)	85 %	8
Grain	Weyermann - Dehusked Carafa III	0.5 kg (7.5%)	70 %	1024
Carafa na ostatnie 15 minut				
Grain	Strzegom Czekoladowy ciemny	0.2 kg (3%)	68 %	1200
Na ostatnie 15 minut				

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	15 g	60 min	12 %
Boil	Mosaic	15 g	60 min	10 %
Boil	Citra	10 g	30 min	12 %
Boil	Mosaic	10 g	30 min	10 %
Aroma (end of boil)	Citra	10 g	10 min	12 %
Aroma (end of boil)	Mosaic	10 g	10 min	10 %
Aroma (end of boil)	Citra	15 g	0 min	12 %

Aroma (end of boil)	Mosaic	15 g	0 min	10 %
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## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis